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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,888	03/08/2002	Jun Seok Park	P67691US0	1151
7590 08/25/2004 JACOBSON, PRICE, HOLMAN & STERN PROFESSIONAL LIMITED LIABILITY COMPANY 400 Seventh Street, N.W. Washington, DC 20004			EXAMINER HUANG, WEN WU	
			ART UNIT 2682	PAPER NUMBER 7p
DATE MAILED: 08/25/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,888

Applicant(s)

PARK ET AL.

Examiner

Wen Huang

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-19 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date #2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al (US. 5,530,912) in view of Scholefield et al (US. 6,216,006).

Regarding claim 1, Agrawal et al disclose a call control method for handoff guarantee in a mobile terminal (see Agrawal et al, col. 2, lines 7-9), the method comprising the following steps of:

judging whether the requested bandwidth is allocable within the available bandwidth of the current cell when a received new call requests bandwidths (see Agrawal et al, fig. 5, labeled as "CHANNEL AVAILABLE?");

if the requested bandwidth is allocable within the available bandwidth of the current cell, inspecting a handoff queue to judge whether a standby call exists in the handoff queue (see Agrawal et al, fig 5, labeled as "HANDOVER QUEUE EMPTY?") and requesting handoff from an adjacent cell into the current cell is inherently done when the new call for handoff is requested;

if the standby call does not exist in the handoff queue, approving the new call (see Agrawal et al, fig. 5, labeled as "CHANNEL ASSIGNED");

and requesting a bandwidth reservation from the adjacent cell after allocating the requested bandwidth (see Agrawal et al, fig. 5, labeled as "CHANNEL ASSIGNED") ;

It is inherent that the process of assigning channels involves approving the new call (see Agrawal et al, col. 2, line 33) and requesting a bandwidth reservation (see Agrawal et al, col. 5, lines 21 – 25)

It is also inherent that the minimum one of the requested bandwidth and the available bandwidth of the cell to an application which currently requests call set-up

about the approved call is the requested bandwidth, since the requested bandwidth has to be allocable and smaller than available bandwidth.

Agrawal et al fail to teach that the requested bandwidth is the maximum bandwidth when a received new call requests the maximum and minimum bandwidths.

Scholefield et al teach that the requested bandwidth is the maximum bandwidth when a received new call requests the maximum and minimum bandwidths (see Scholefield et al, fig. 2, col. 3, lines 20-23 and 26-28) and said received new call requires minimum delay.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the method of Agrawal et al with the teaching of Scholefield in order to insure a successful handoff with guarantee quality of service.

Regarding claim 2, Agrawal et al as modified by Scholefield et al also disclose a call control method for handoff guarantee in a mobile terminal according to claim 1, further comprising the step of blocking the new call if the requested maximum bandwidth is not allocable within the available bandwidth of the current cell or the standby call exists in the handoff queue (see Agrawal et al, fig. 5, labeled as "CALL BLOCKED").

Regarding claim 3, Agrawal et al as modified by Scholefield et al further teach a call control method for handoff guarantee in a mobile terminal according to claim 1,

wherein the call has a guaranteed traffic type (see Scholefield et al, col. 2, line 64 – col. 3, line 8).

Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al and Scholefield et al as applied to claim 1 above, and further in view of Jiang et al (US 6,535,742).

Regarding claim 4, Agrawal et al and Scholefield et al teach a call control method for handoff guarantee in a mobile terminal according to claim 1.

Agrawal et al and Scholefield et al fail to teach that further comprising the step of periodically monitoring new call block rate and handoff failure rate by measuring the same to adjust the amount of the bandwidth according to a result of monitoring.

Jiang et al teach a call control method comprising the step of periodically monitoring new call block rate and handoff failure rate by measuring the same (see col. 4, lines 27-29 and col. 8, lines 3-4) to adjust the amount of the bandwidth according to a result of monitoring (see col. 6, lines 56-59 and lines 62-64).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the method taught by Agrawal et al as modified by Scholefield et al with the method taught by Jiang et al in order to dynamically and effectively allocate bandwidth to fit the changing traffic pattern.

Regarding claim 5, Agrawal et al as modified by Scholefield et al and Jiang et al further teach a call control method for handoff guarantee in a mobile terminal according to claim 4, wherein the step of adjusting the amount of the bandwidth comprises: adjusting the bandwidth reserved for handoff (see Jiang et al, col. 8, lines 4-7) by judging whether the measurement of the new call block rate exceeds the threshold block value of new call as the reference of communication service quality in the current cell and whether the measurement of the handoff failure rate exceeds a pre-set threshold failure value (see Jiang et al, fig. 3, col. 8, lines 7, line 66 – col. 8, line 4).

Regarding claim 6, Agrawal et al as modified by Scholefield et al and Jiang et al further teach a call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the step of adjusting the amount of the bandwidth comprises: reducing the amount of the reserved bandwidth (see Jiang et al, col. 8, lines 4-7) by judging that the bandwidth is excessively reserved for handoff if the measurement of the new call block rate exceeds the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate does not exceed the pre-set threshold failure value (see Jiang et al, fig. 3, components 320,350,360,325, col. 7, line 66 – col. 8, line 54).

Regarding claim 7, Agrawal et al as modified by Scholefield et al and Jiang et al further teach a call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the step of adjusting the amount of the bandwidth comprises:

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increasing the reserved bandwidth (see Jiang et al, col. 8, lines 4-7) by judging that the bandwidth is insufficiently reserved for handoff if the measurement of the new call block rate does not exceed the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate exceeds the pre-set threshold failure value (see Jiang et al, fig. 3, components 320,350,360,325, col. 7, line 66 – col. 8, line 54).

Regarding claim 8, Agrawal et al as modified by Scholefield et al and Jiang et al also teach a call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the reserved bandwidth for handoff is not adjusted by judging that the service quality is satisfied if the measurement of the new call block rate does not exceed the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate does not exceed the pre-set threshold failure value (see Jiang et al, fig. 3, components 320,350,360,325, col. 7, line 66 – col. 8, line 54).

Regarding claim 9, Agrawal et al as modified by Scholefield et al and Jiang et al further teach a call control method for handoff guarantee in a mobile terminal according to claim 5, further comprising the step of subdividing the cell by judging that users are concentrated in the current cell (see Agrawal et al, fig. 5, labeled as "nfc > nmp?") exceeding the limit of cell capacity if the measurement of the new call block rate is maintained at least the threshold block value of new call which is the reference of

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communication service quality of the current cell and the measurement of the handoff failure rate is maintained at least the pre-set threshold failure value for a predetermined time (see Jiang et al, fig. 3, components 320,350,360,325, col. 7, line 66 – col. 8, line 54).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al as and Scholefield et al applied to claim 1 above, and further in view of McCarthy (US. 6,181,941).

Agrawal et al as modified by Scholefield et al disclose a call control method for handoff guarantee in a mobile terminal (see Agrawal et al, col. 2, lines 7-9), the method comprising the following steps of:

judging whether the requested bandwidth is allocable within the available bandwidth of the current cell when a received new call requests bandwidths (see Agrawal et al, fig. 5, labeled as “CHANNEL AVAILABLE?”);

if the requested bandwidth is allocable within the available bandwidth of the current cell, inspecting a handoff queue to judge whether a standby call exists in the handoff queue (see Agrawal et al, fig 5, labeled as “HANDOVER QUEUE EMPTY?”) and requesting handoff from an adjacent cell into the current cell is inherently done when the new call for handoff is requested;

if the standby call does not exist in the handoff queue, approving the new call (see Agrawal et al, fig. 5, labeled as “CHANNEL ASSIGNED”);

and requesting a bandwidth reservation from the adjacent cell after allocating the requested bandwidth (see Agrawal et al, fig. 5, labeled as "CHANNEL ASSIGNED") ;

It is inherent that the process of assigning channels involves approving the new call (see Agrawal et al, col. 2, line 33) and requesting a bandwidth reservation (see Agrawal et al, col. 5, lines 21 – 25)

It is also inherent that the minimum one of the requested bandwidth and the available bandwidth of the cell to an application which currently requests call set-up about the approved call is the requested bandwidth, since the requested bandwidth has to be allocable and smaller than available bandwidth.

Scholefield et al teach that the requested bandwidth is the maximum bandwidth when a received new call requests the maximum and minimum bandwidths (see Scholefield et al, fig. 2, col. 3, lines 20-23 and 26-28) and said received new call requires minimum delay.

Agrawal et al as modified by Scholefield et al fail to teach a record medium readable by a digital processing device recording a tangibly embodied program of instructions executable by the digital processing device to perform a call control method for handoff guarantee in a mobile terminal.

McCarthy teaches a record medium readable by a digital processing device recording a tangibly embodied program of instructions executable by the digital processing device to perform a call control method for handoff guarantee in a mobile terminal (see McCarthy, see Fig. 7 and 8, col. 13, line 61 – col. 14, line 53).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine to the method taught by Agrawal et al and Scholefield et al with the teaching of McCarthy in order to implement and utilize said call control method.

Allowable Subject Matter

Claims 10-19 and 21 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claim 10, Agrawal et al as modified by Scholefield et al and McCarthy fail to teach the step of:

allocating the minimum one of the requested maximum bandwidth and the added value of the reserved bandwidth and the available bandwidth in the unreserved bandwidth of the cell;

Regarding claim 21, Agrawal et al as modified by Scholefield et al and McCarthy fail to teach that comprising the step of:

allocating the minimum one of the requested maximum bandwidth and the added value of the reserved bandwidth and the available bandwidth in the unreserved bandwidth of the cell;

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bodin et al (US. 5,301,356) teach a method and system for ensuring that handoff requests take priority over new cell requests and First-In-First-Out based handoff queue.

Fapojuwu (US. 6,212,389) teaches a dynamic channel allocation method for handoff requests, see fig. 7a and 7b.

Park (US. 6,628,949) teaches a method of prioritizing handoff requests queues, see fig. 4.

Agrawal et al (US. 5,465,389) also teach a method of prioritizing handoff procedures, see fig. 4 and 5.

Qing-An (US. 6,529,733) teaches a method of handoff control, see fig. 9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen Huang whose telephone number is (703) 305-6285. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LEE NGUYEN
PRIMARY EXAMINER